

FIG. 1A is a block diagram of a network system 100. The system includes a central network 100, which is connected to several components. On the left, a group of components labeled 101 includes COMPUTER 102, COMPUTER 104, and COMPUTER 106. COMPUTER 104 is connected to NETWORK 103, which in turn is connected to COMPUTER 108. On the right, the network 100 is connected to STORAGE 112, STORAGE 116, NETWORK CLOCK 150, and FILE SERVER COMPUTER 140. At the bottom, COMPUTER 130 is also connected to the network 100. The network 100 is represented by a horizontal line with arrows at both ends, indicating bidirectional communication.

FIG. 1A

PRIOR ART

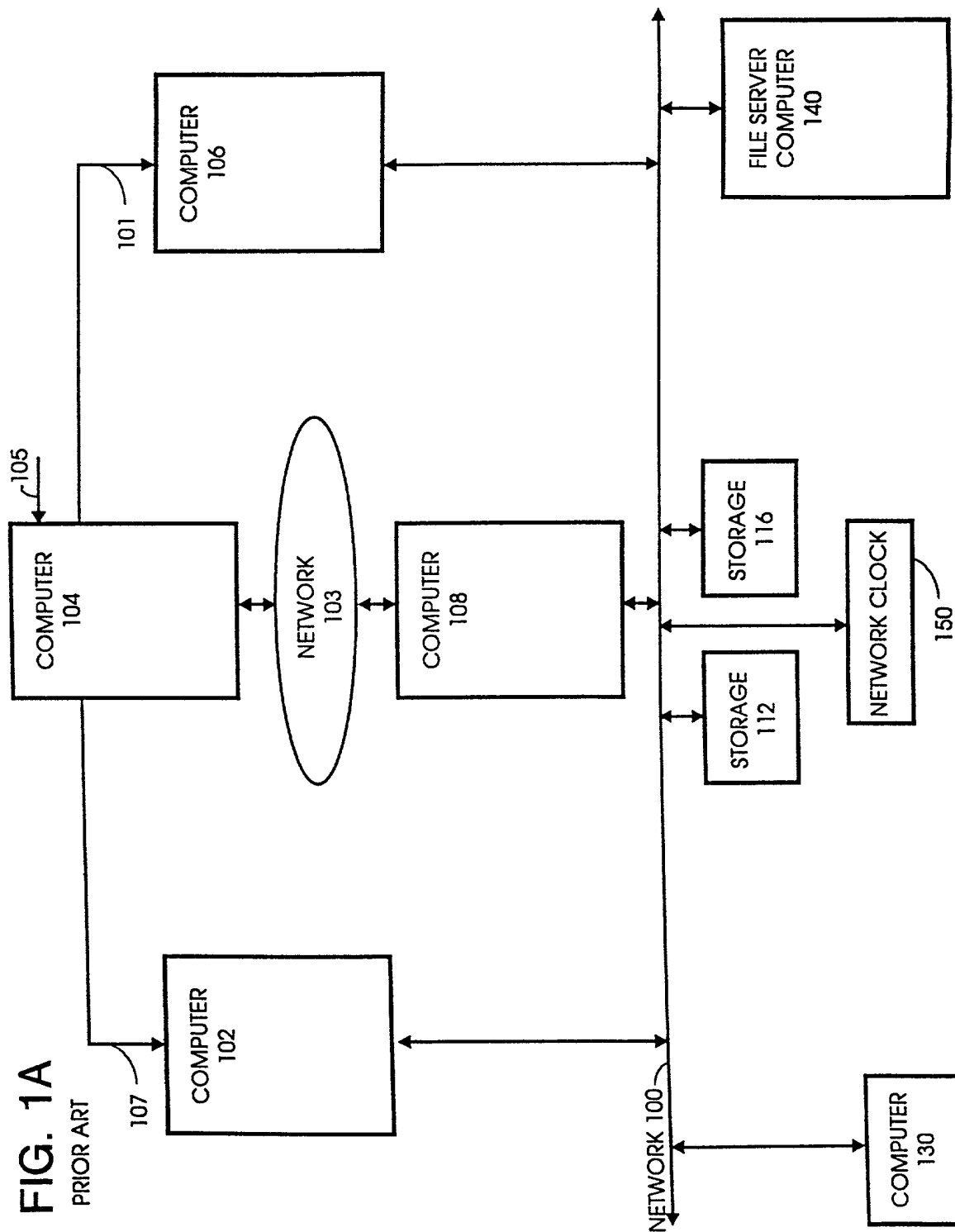


FIG. 2A

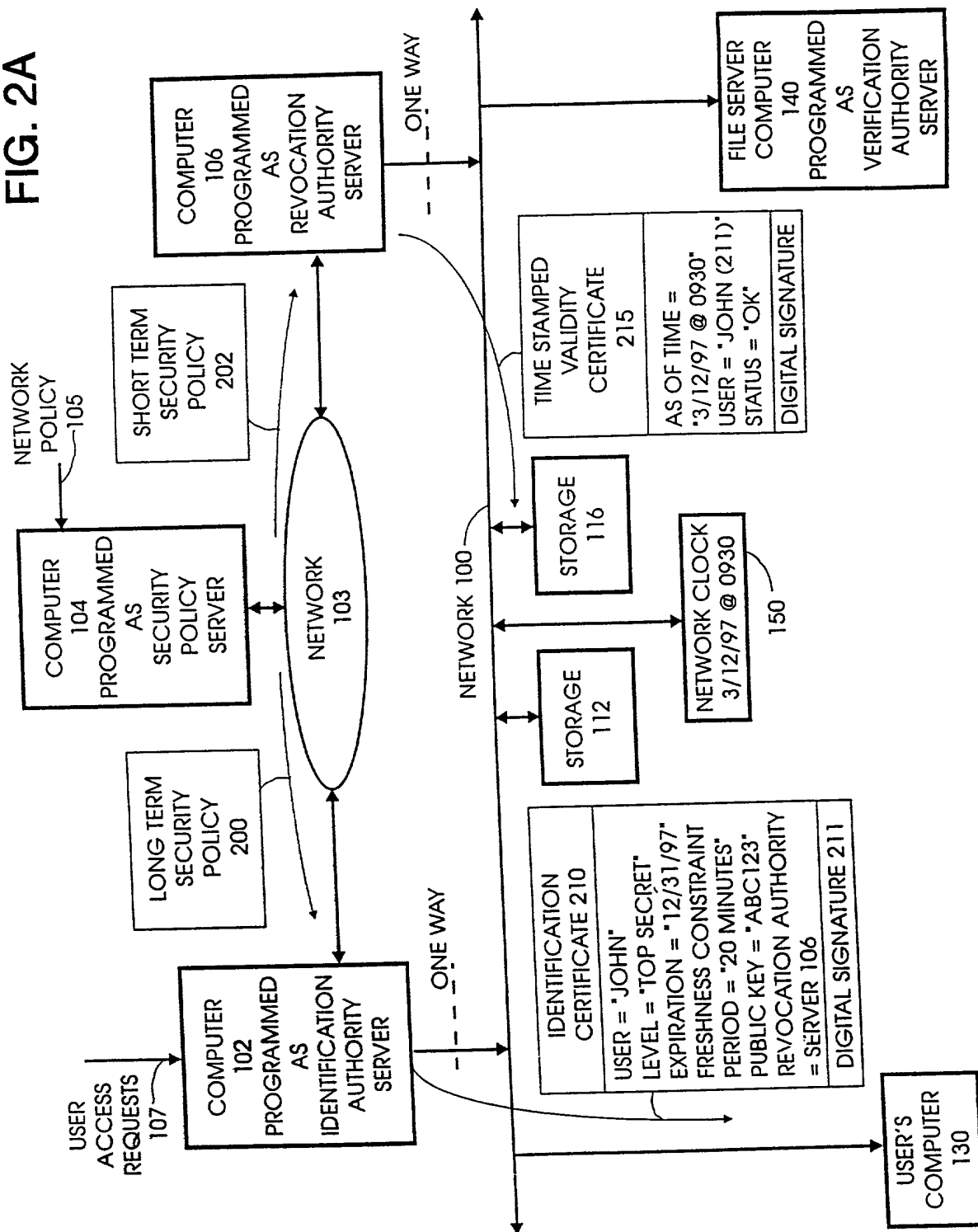


FIG. 2B

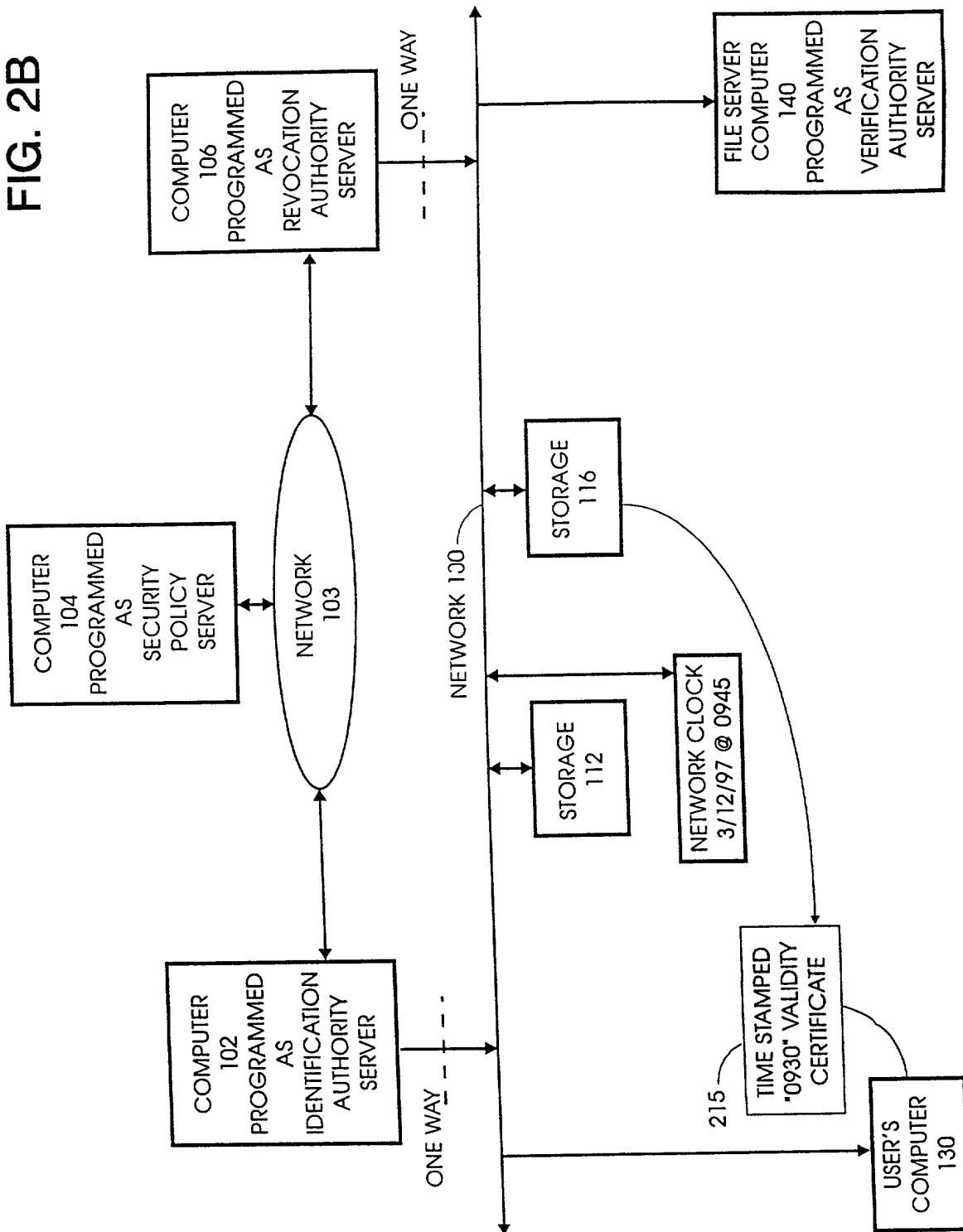


FIG. 2C

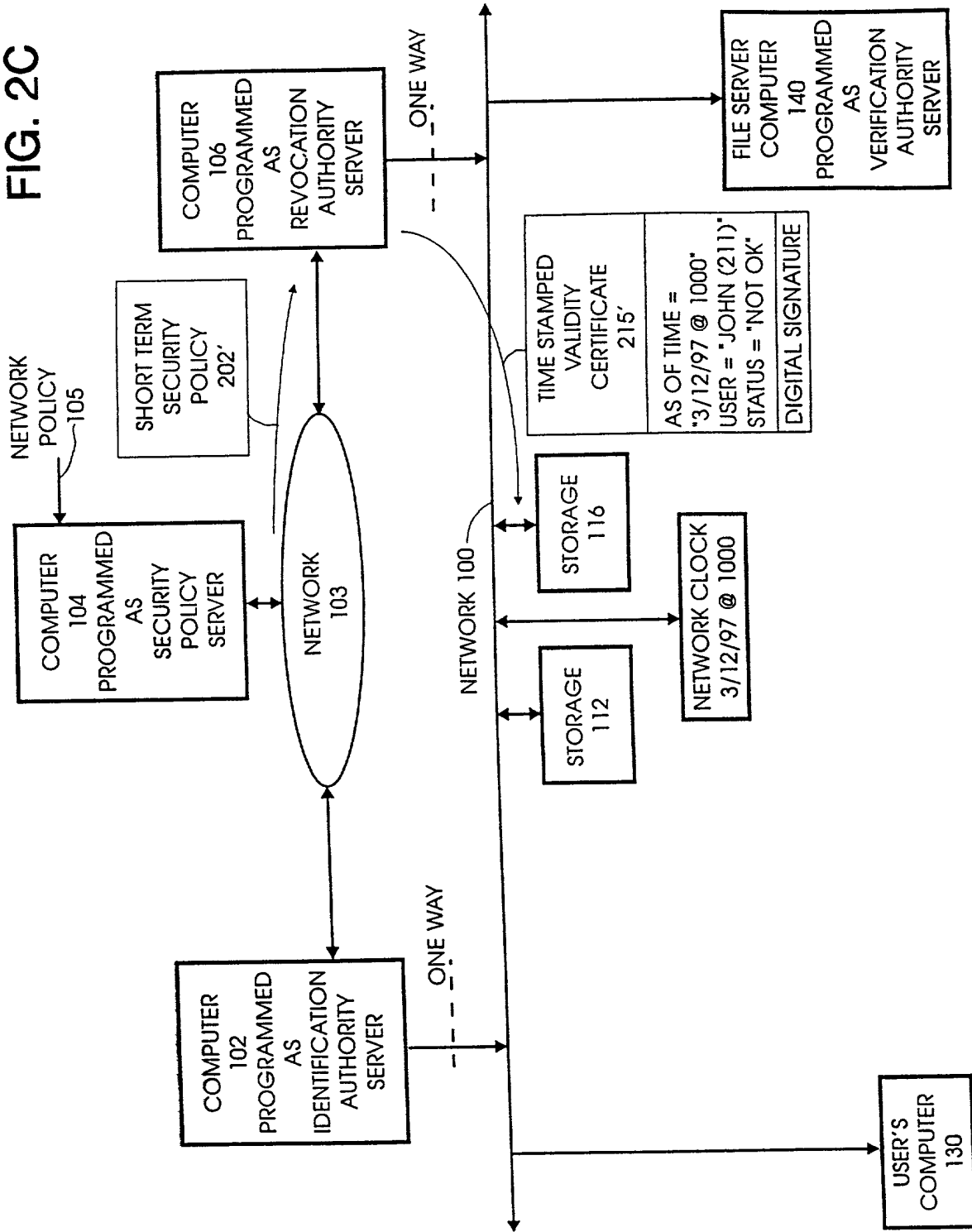


FIG. 2D

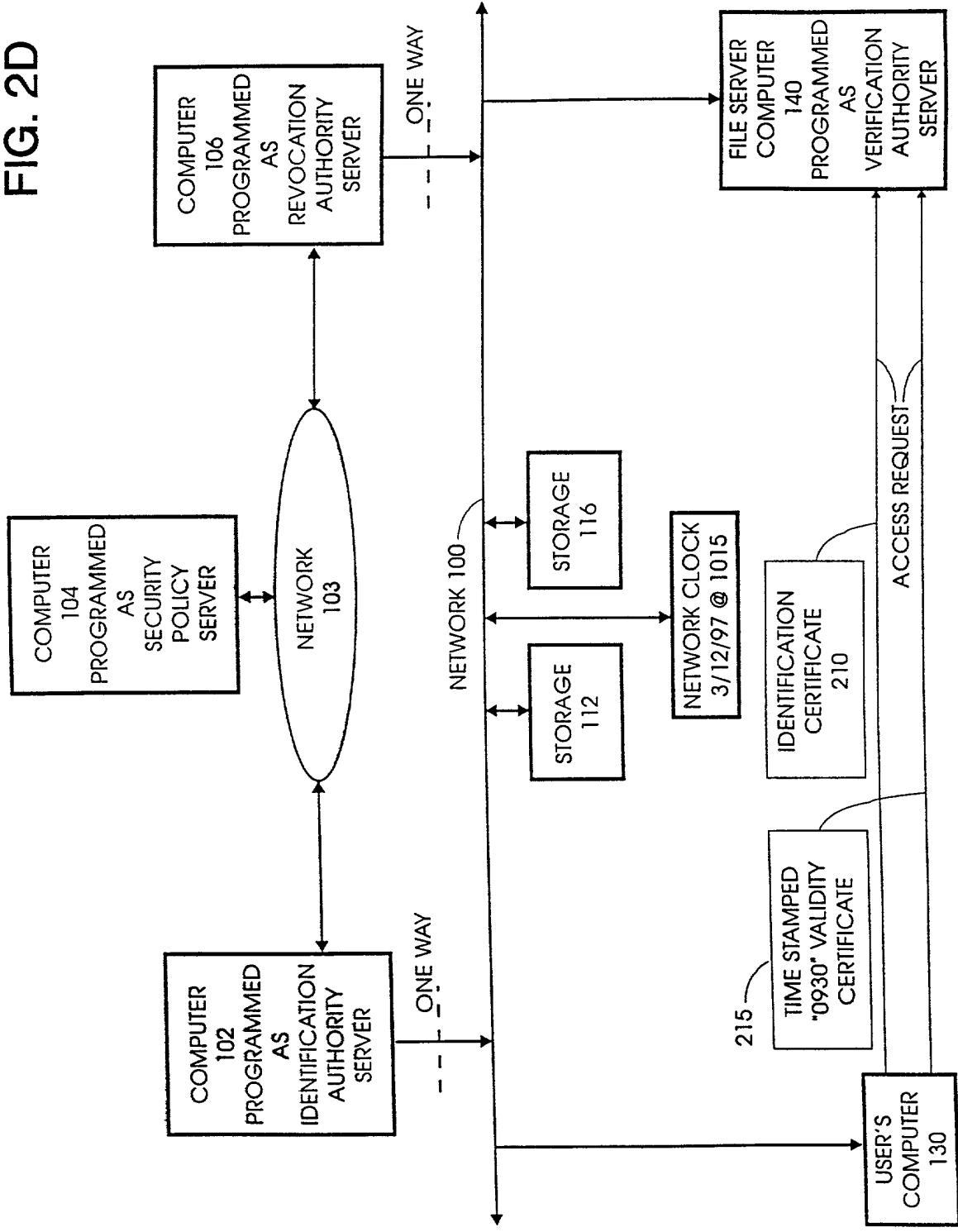


FIG. 2E

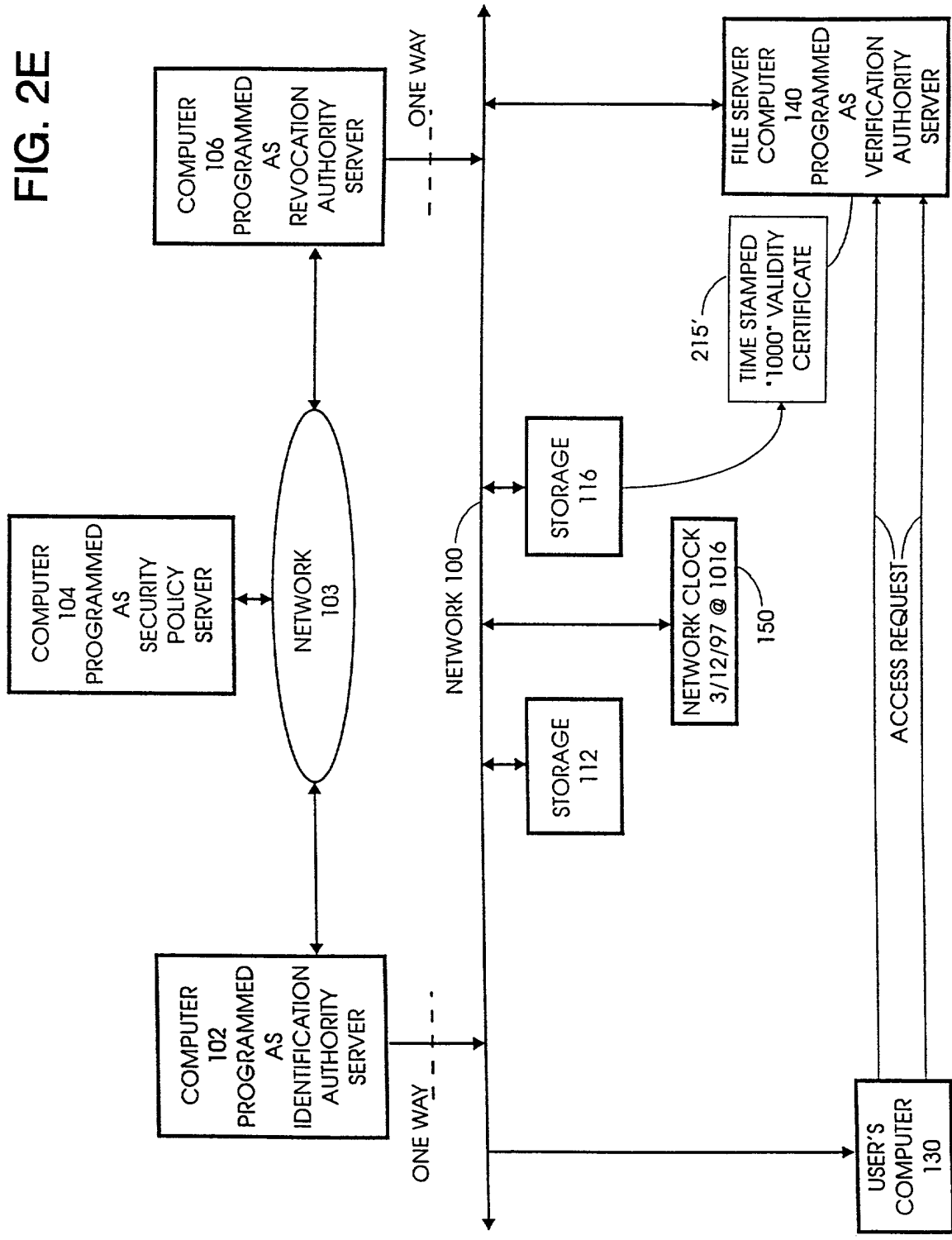


FIG. 2F

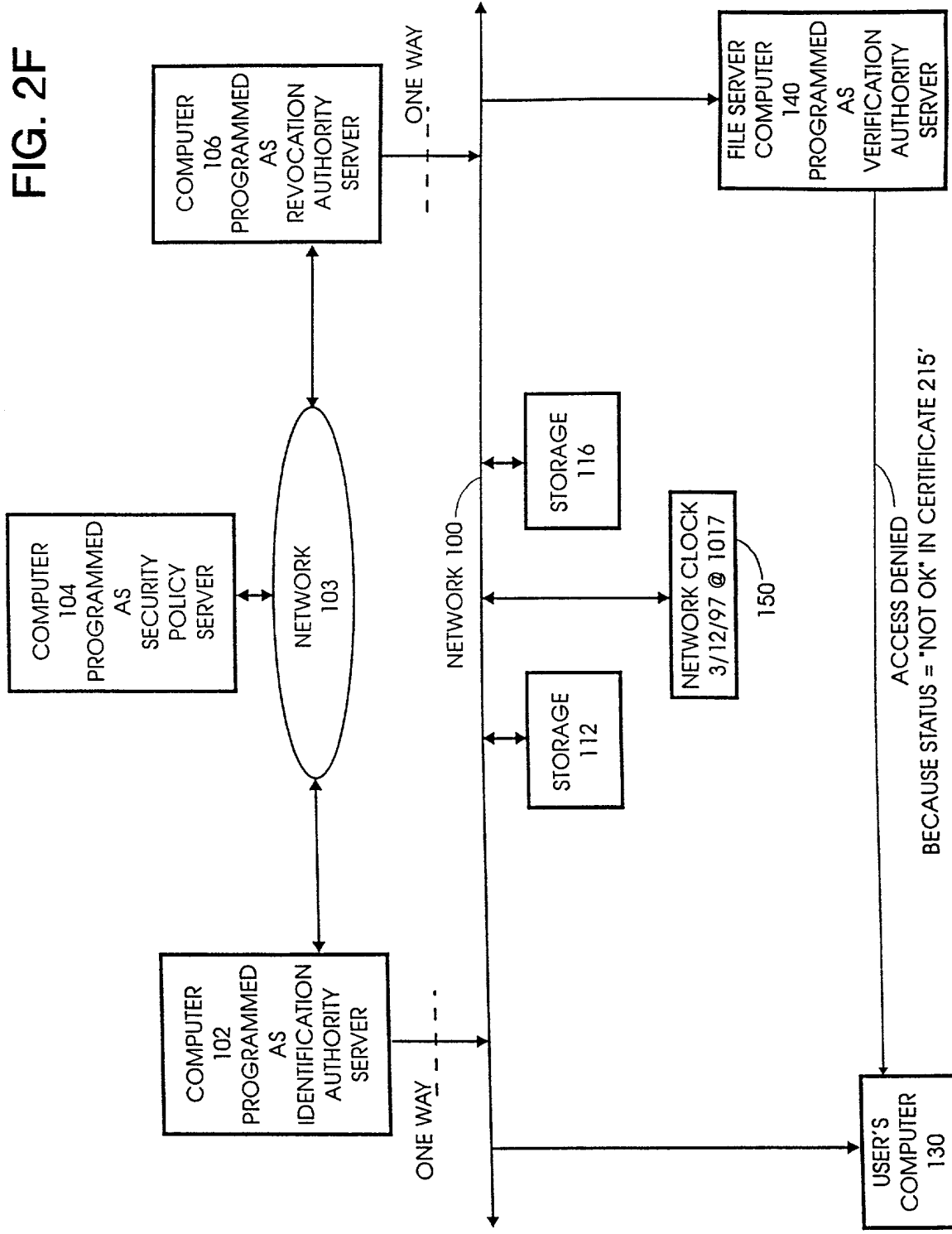


FIG. 2G

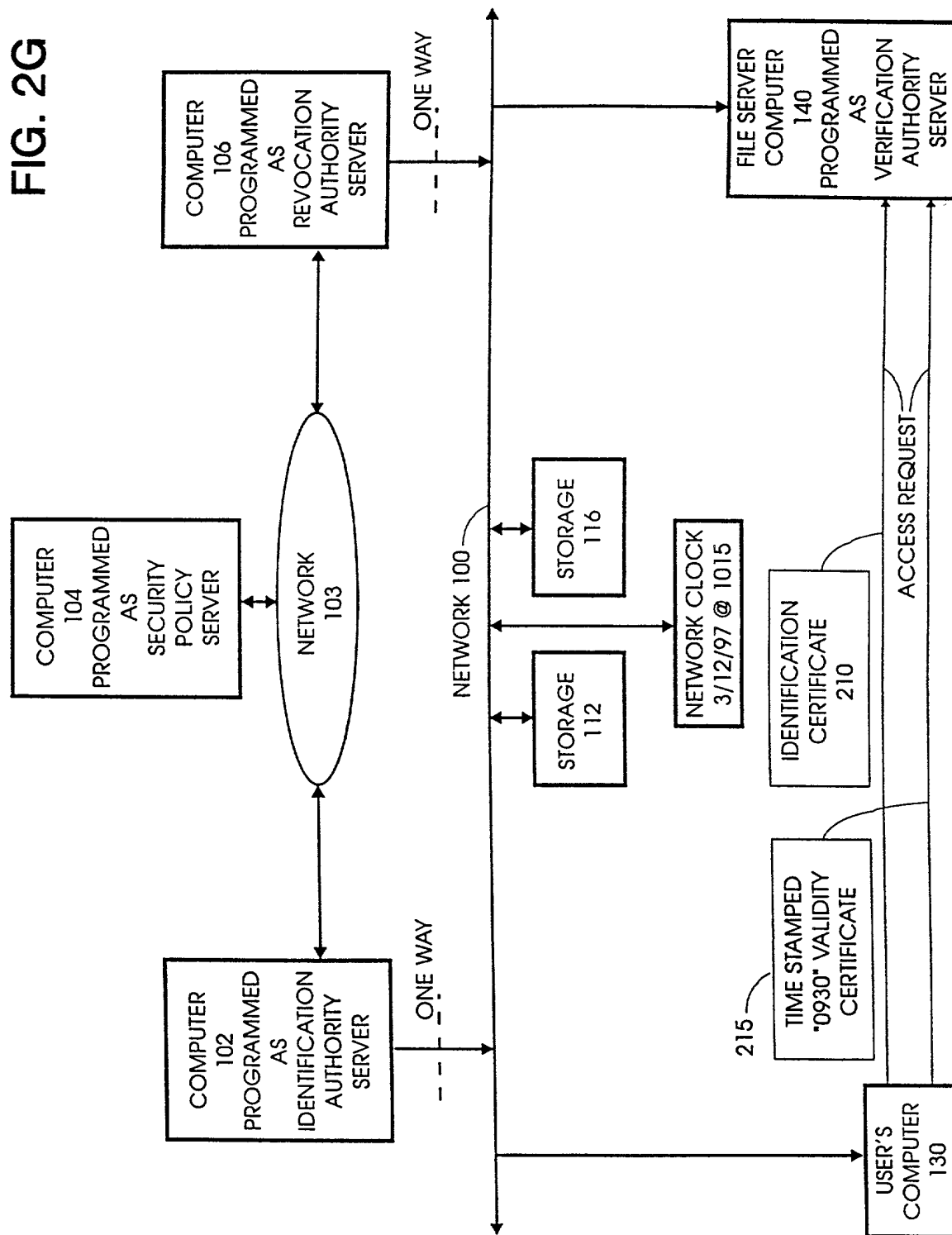


FIG. 2H

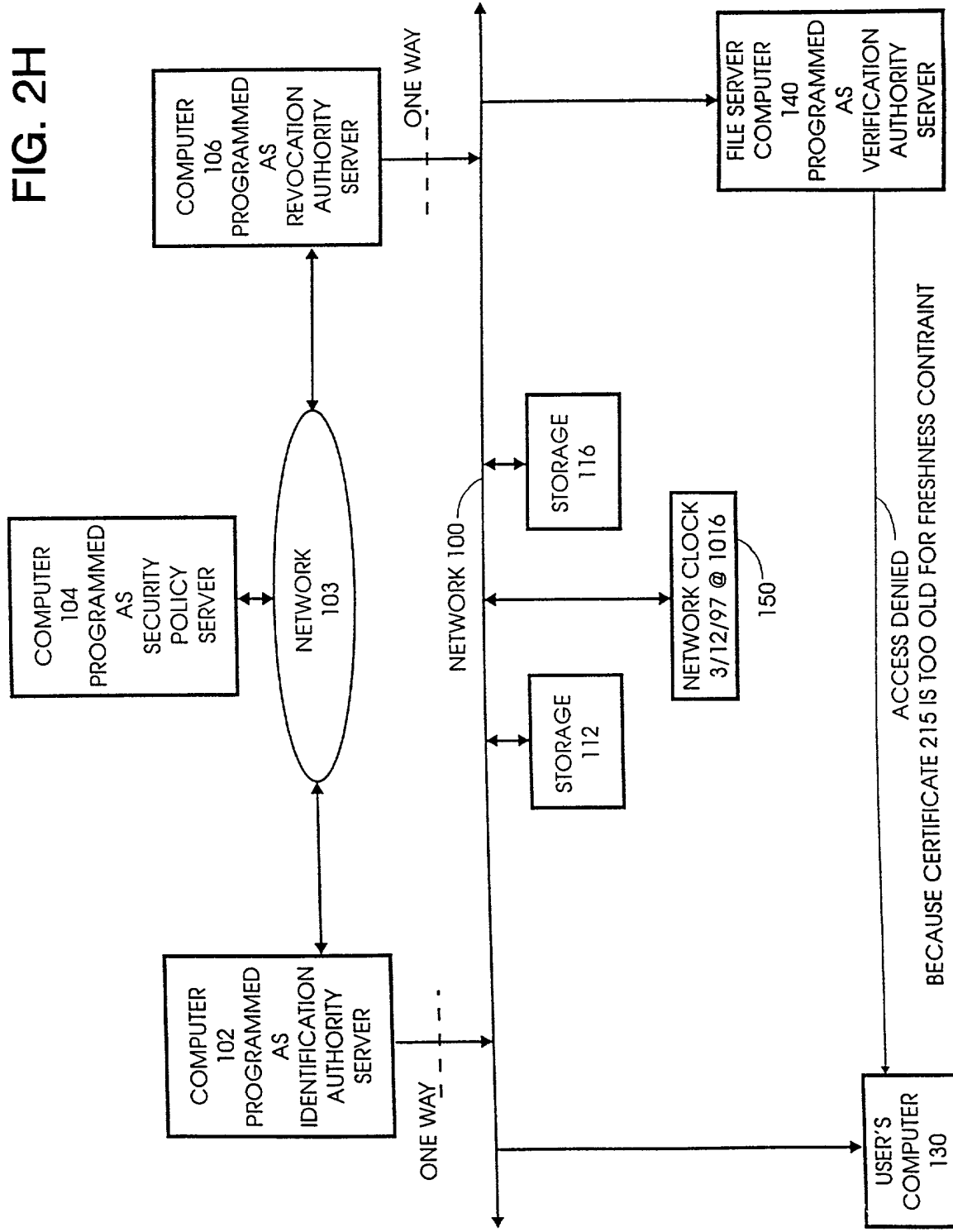


FIG. 3A

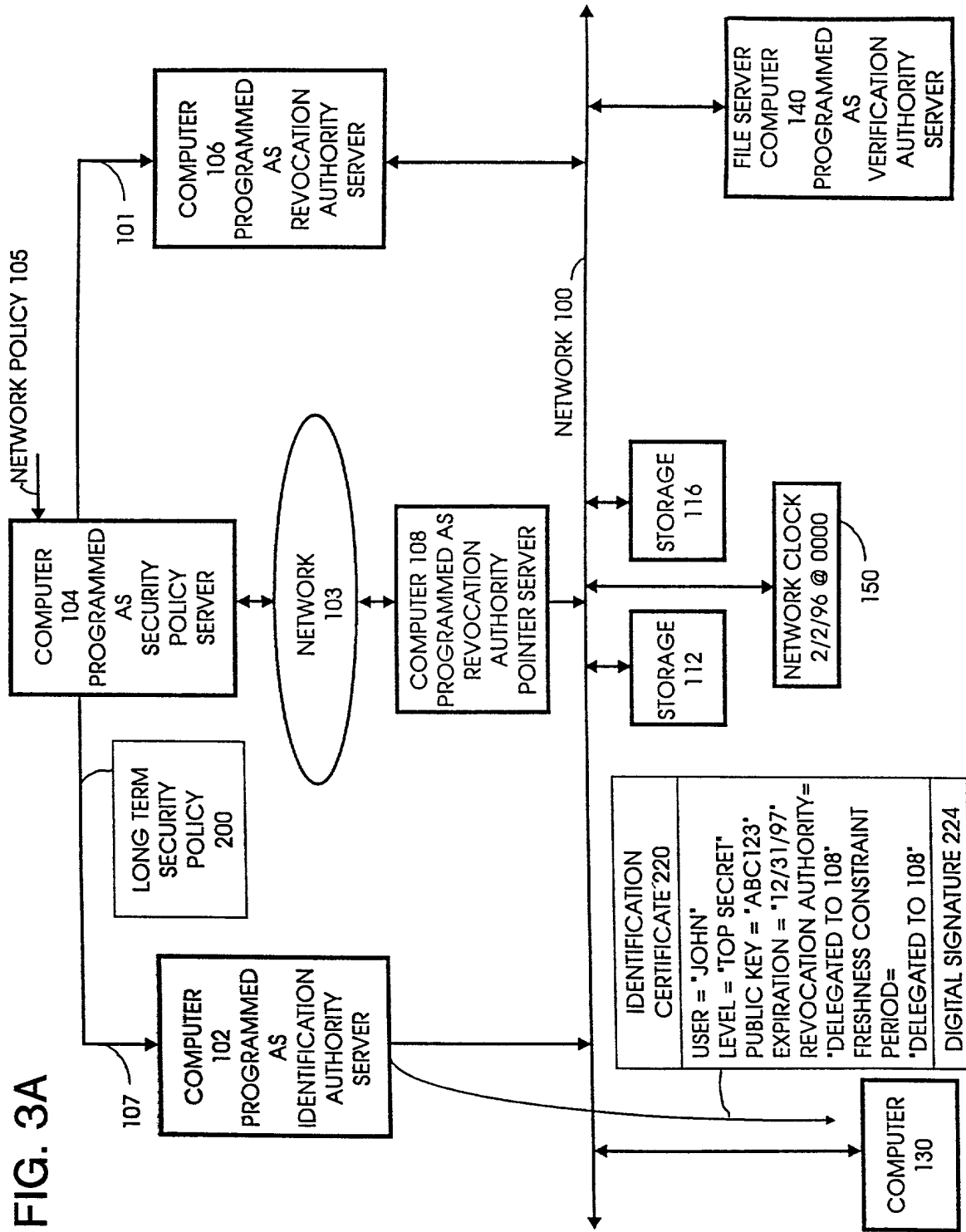


FIG. 3B

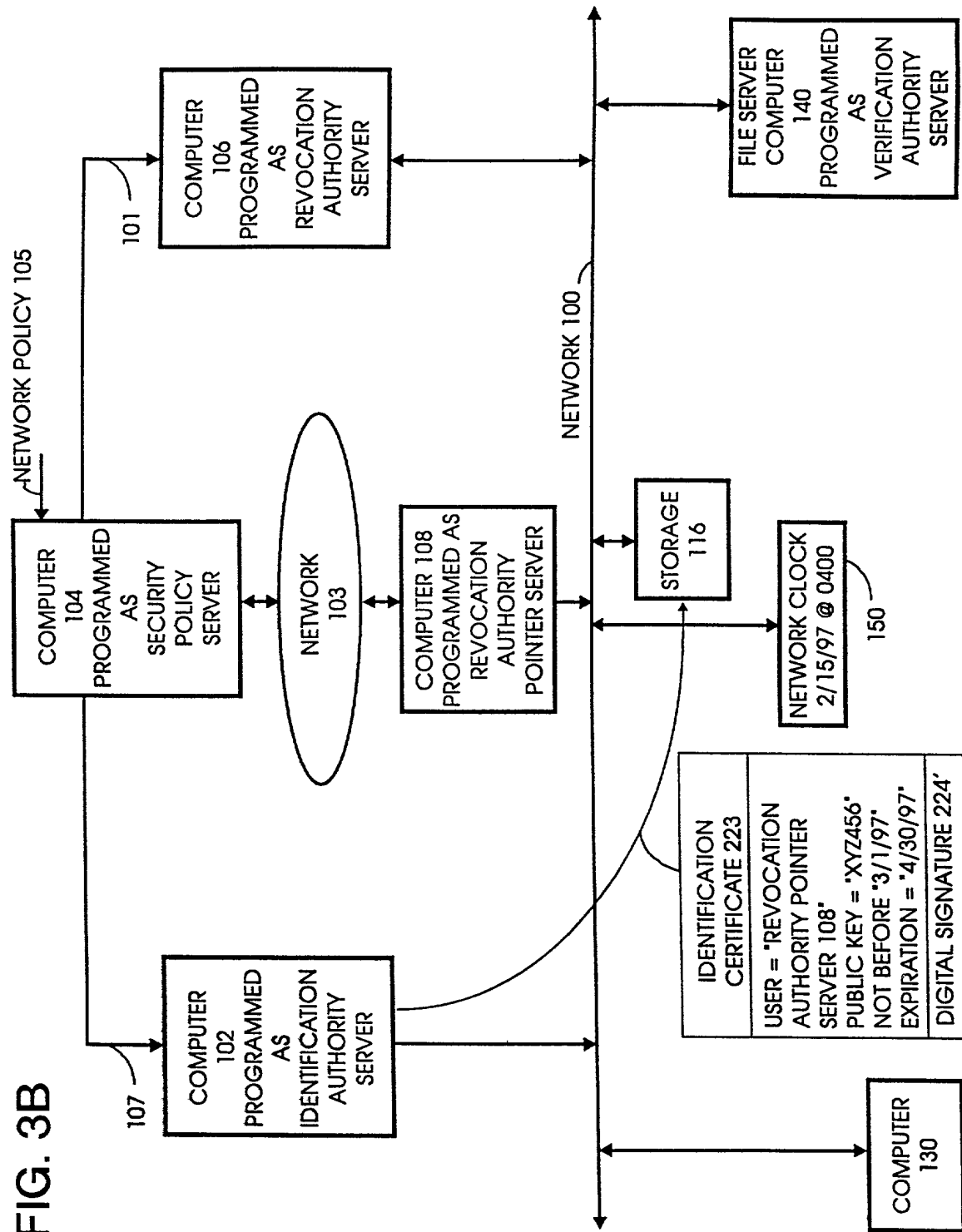


FIG. 3C

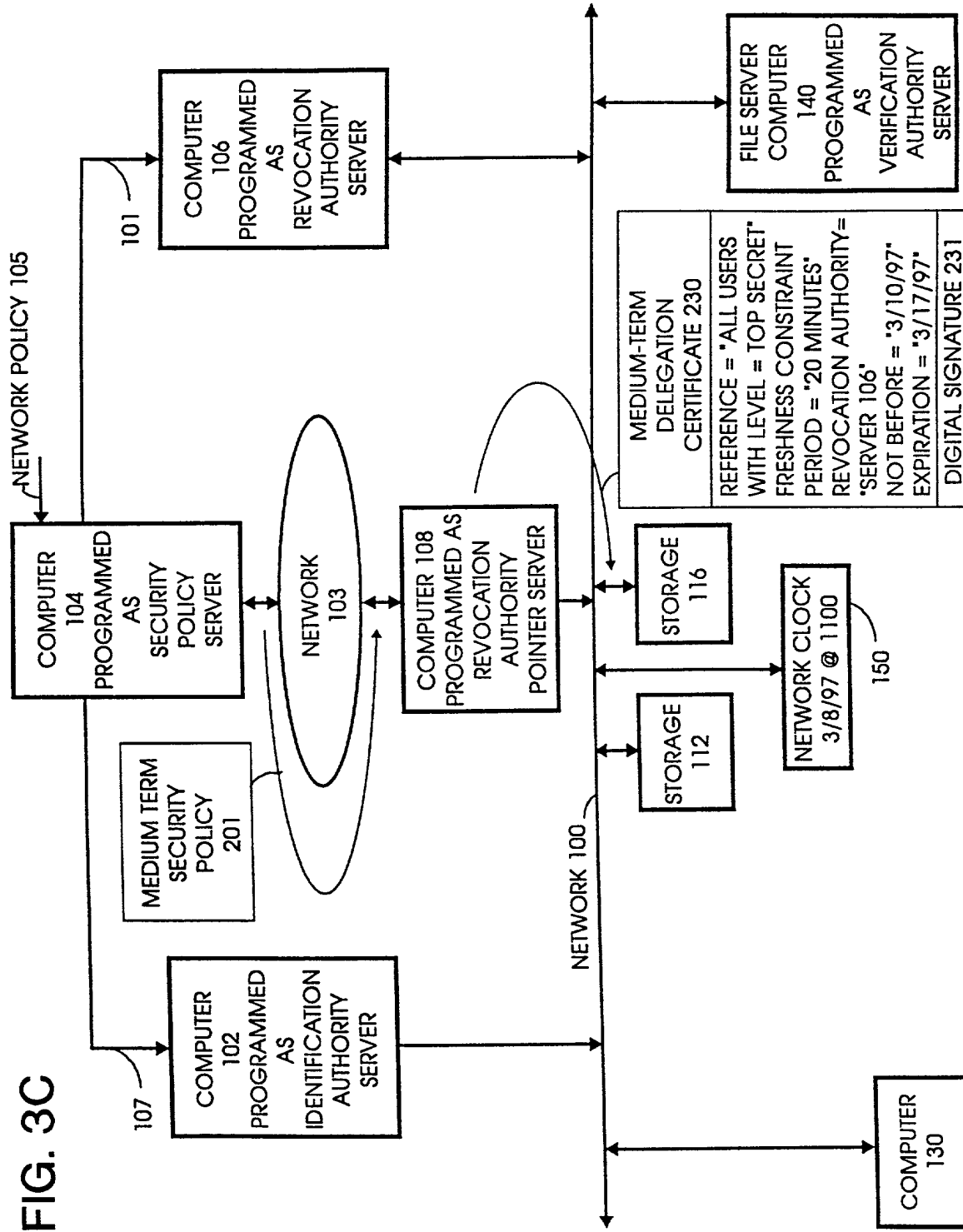
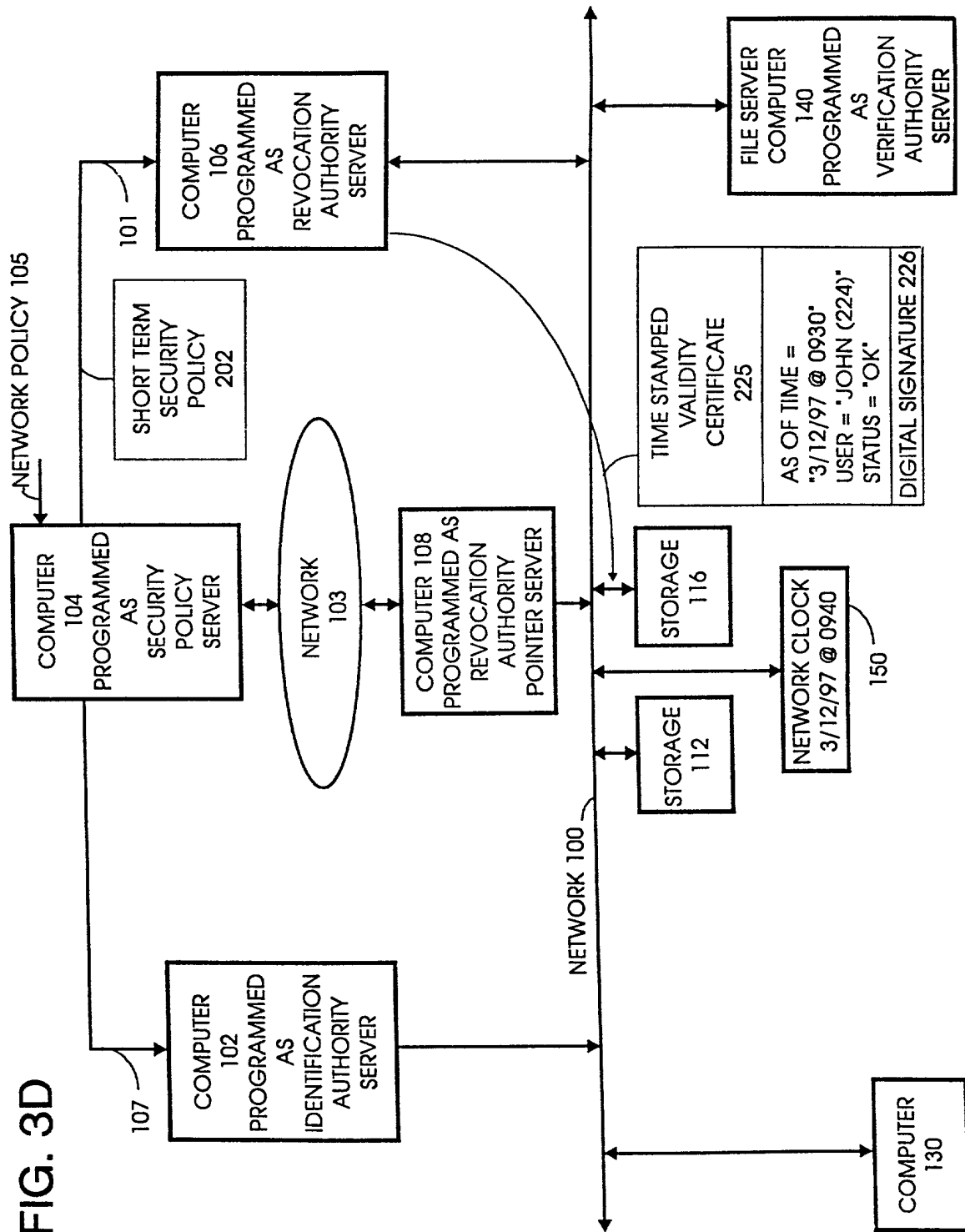


FIG. 3D



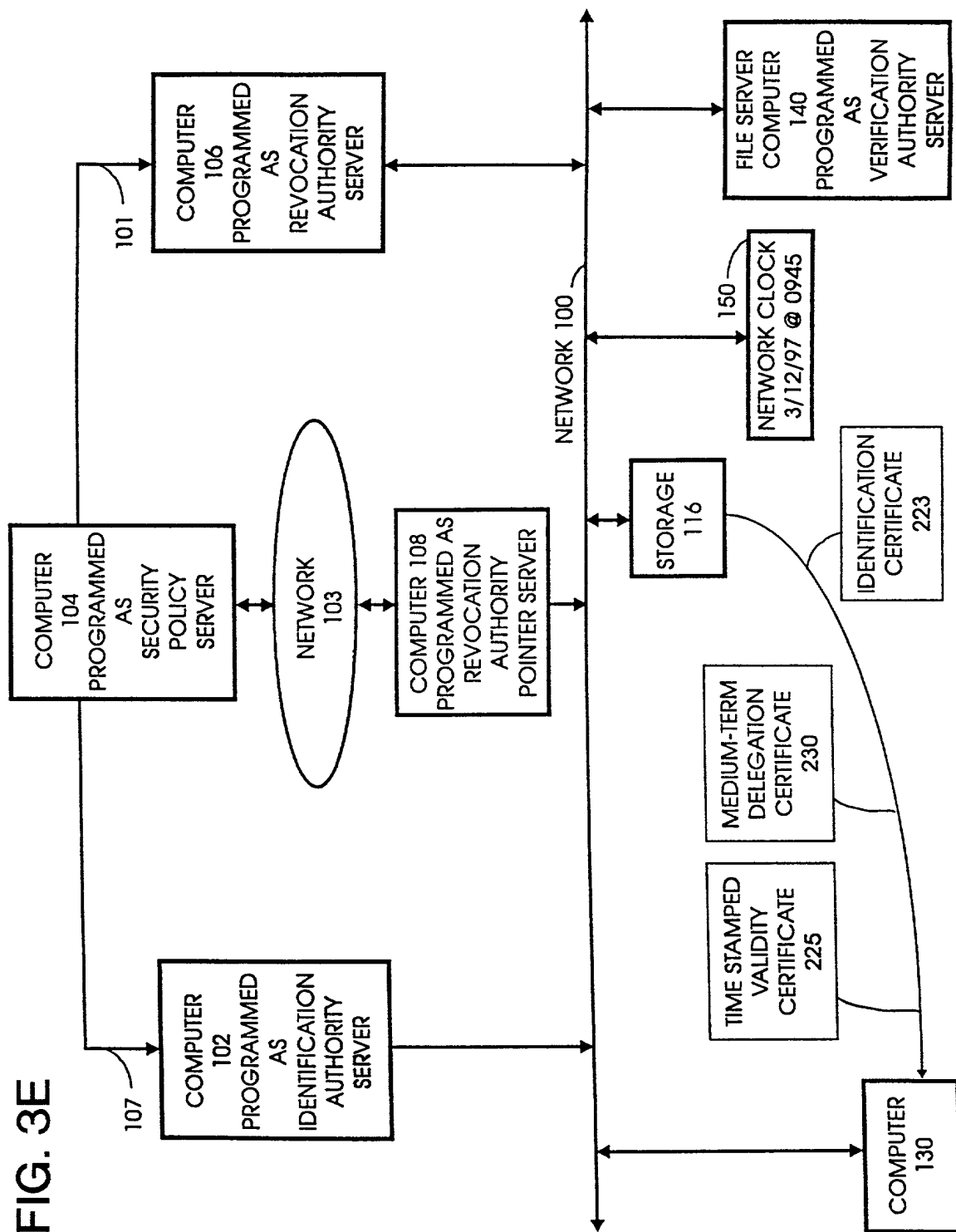


FIG. 3F

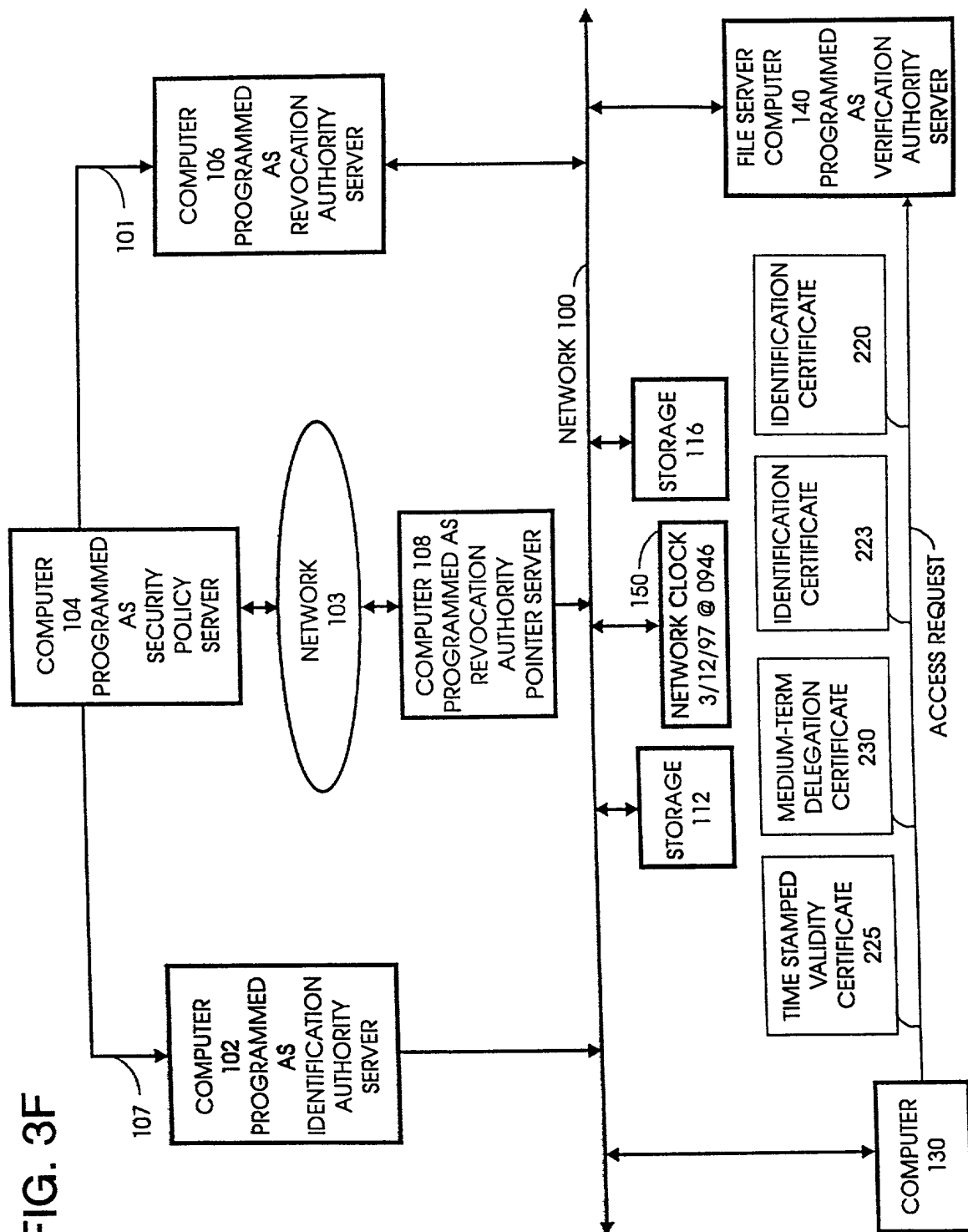
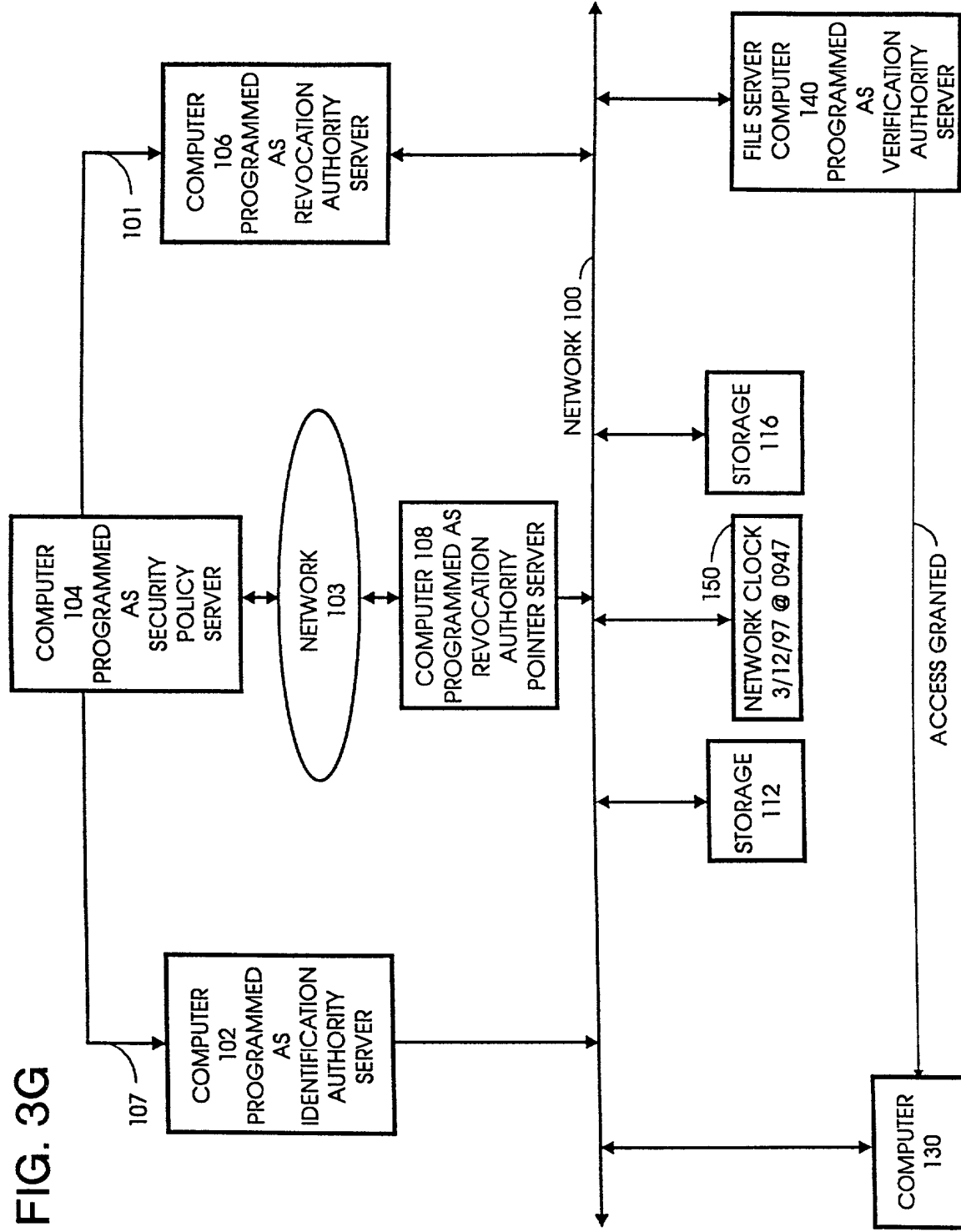


FIG. 3G



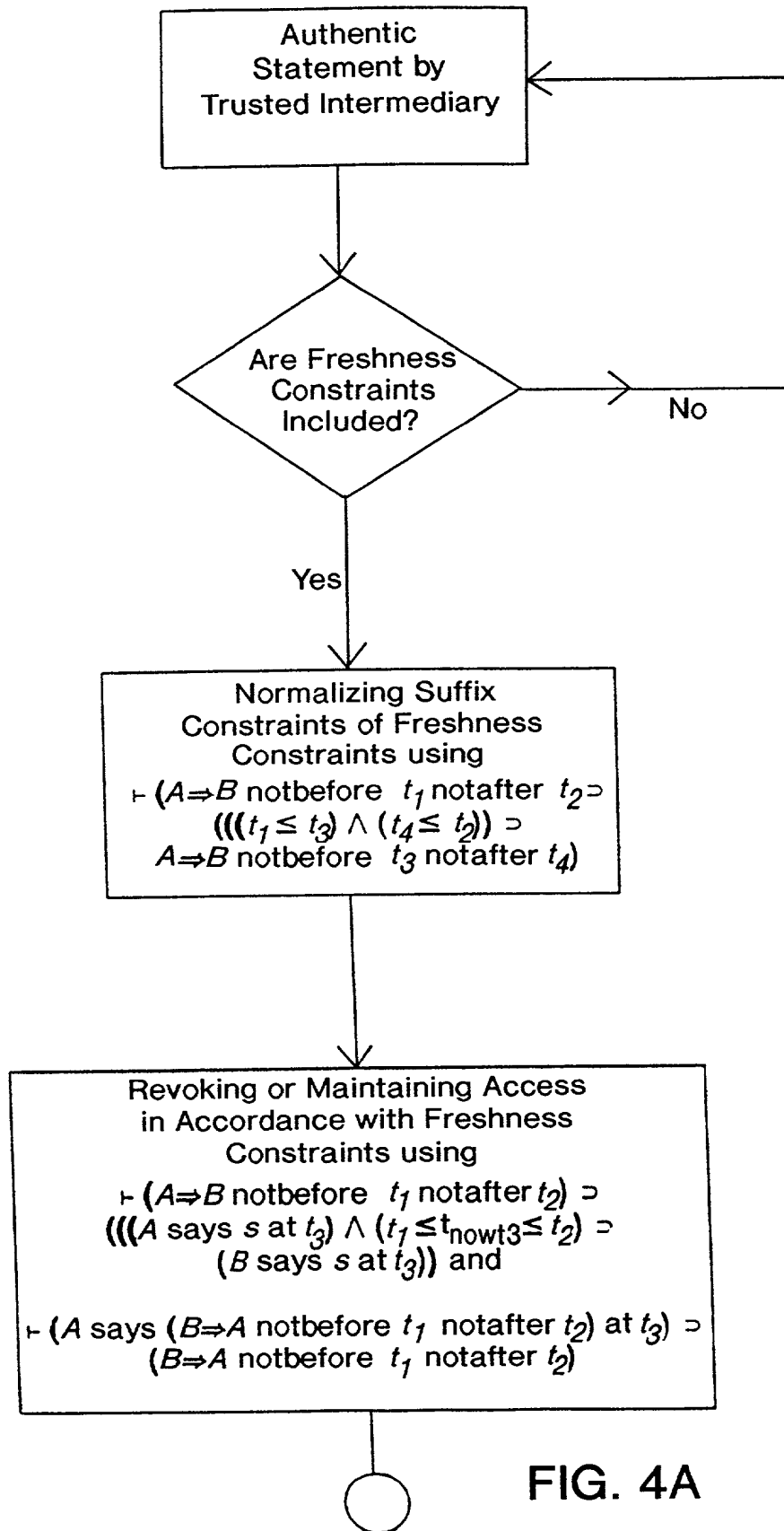


FIG. 4A

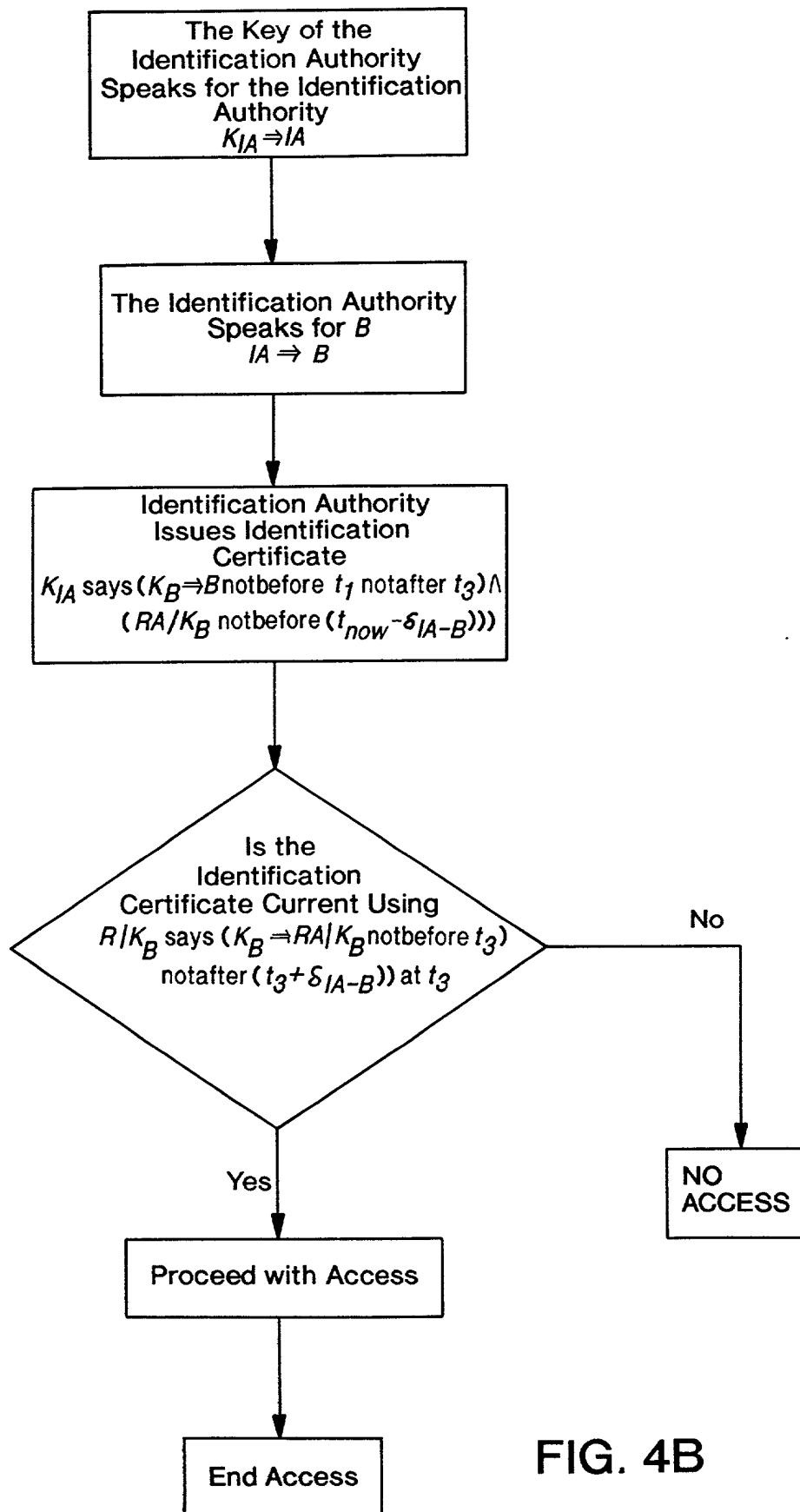


FIG. 4B

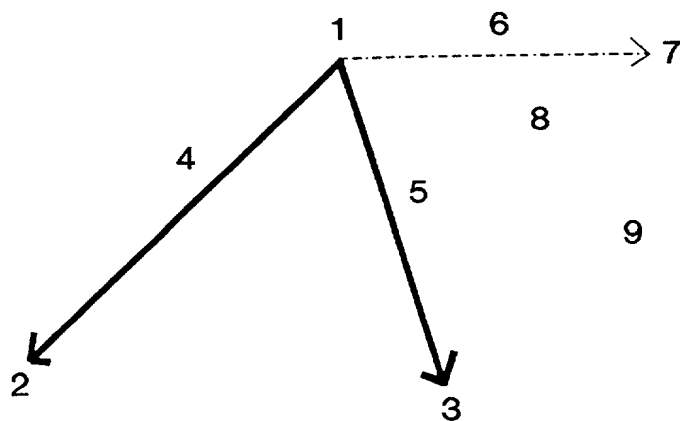


FIG. 5A

Certificate Topology

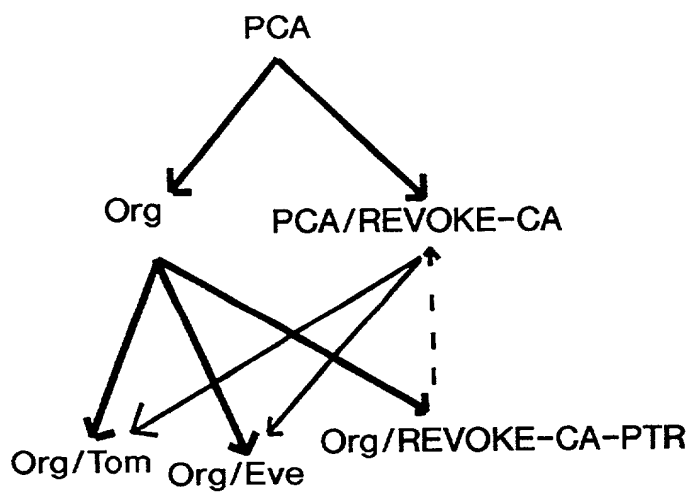


FIG. 5B

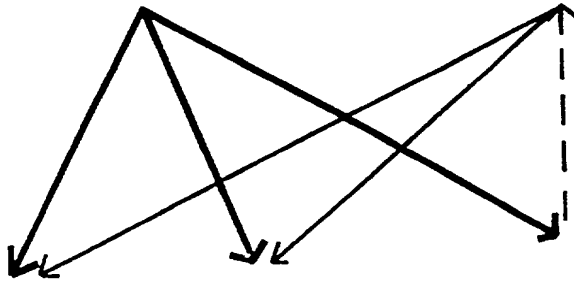


FIG. 5C

Replicated Directory with Varying Levels of Persistent Storage

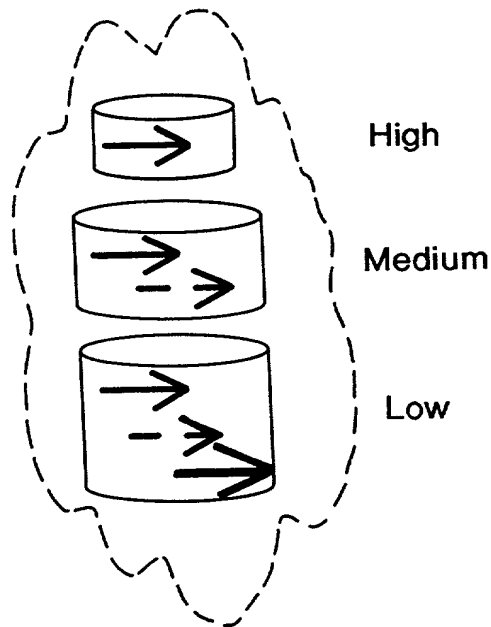


FIG. 6